

LETTERS TO THE EDITOR

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MEDICAL EMERGENCIES

Auto-injector confusion

Sir, over a number of years, whilst training dental professionals in the management of medical emergencies, we have become aware of concern and some confusion around the use of auto-injectors to administer epinephrine as an intra-muscular injection to patients suffering from acute anaphylaxis. This has mainly centred on the fact that an auto-injector which delivered the epinephrine dose recommended by the Resuscitation Council¹ was difficult to obtain.

We felt that your readers may be interested in the product Emerade which is new to the market and satisfies resuscitation guidance not only on epinephrine dose but also the needle length of auto-injectors used in the management of anaphylaxis.

C. Bryant, G. Umar
London

1. Resuscitation Council (UK). *Emergency treatment of anaphylactic reactions. Guidelines for health-care providers*. Working group of the Resuscitation Council (UK). January 2008, annotated with links to NICE guidance July 2012. Reviewed 2013.

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ORAL HEALTH

Bamboo salt

Sir, bamboo salt has been used in Korean medicine for centuries as a folk medicine for the prevention and treatment of various diseases. Studies have shown bamboo salt to have anti-cancer, anti-oxidant, anti-inflammatory and anti-microbial effects.¹

Bamboo salt (also called as Jookyeom) is specially processed according to a traditional recipe using normal salt, bamboo, pine tree wood, pine resin,



Fig. 1 Bamboo salt toothpaste

and yellow soil, combined at very high temperature.¹ Sea salt is put into cases made from bamboo trunks with three years of growth and the ends are plugged with natural yellow clay. The assembly is roasted one or more times to make bamboo salt. The main ingredient of bamboo salt is sodium chloride salt. It is believed that the trace elements in the mud and bamboo make this form of salt healthier.²

Bamboo salt has been added to toothpaste and according to the manufacturer this toothpaste can prevent cavities, reduce plaque and gingivitis, soothe sensitive teeth, fight bad breath, whiten teeth, strengthen tooth enamel, prevent receding gum line and decrease mineral loss. Numerous bamboo salt toothpastes are available in Japan, Hong Kong, Korea and worldwide through the Internet (Fig. 1).

Choi *et al.* conducted a study to evaluate the laboratory remineralisation effects of a dentifrice with bamboo salt and NaF on artificial caries-like enamel lesions, at both the surface and deep areas. The authors concluded that there was a significant increase in the level of the surface hardness and decreased mineral loss of the artificial caries-like enamel lesions. The test dentifrice also significantly decreased the lesion depth.³ Sohn *et al.* showed that when bamboo salt is used in dentifrices, it had an anti-plaque and anti-inflammatory effect.⁴

Over the years, dentistry has evolved from a practice based on folk cures to a structured medical discipline that relies on science and technology. Dentistry today is based on scientific evidence. More research and scientific data are needed before dentists can advise the use of dentifrices like the bamboo salt dentifrice for oral use. Dentists and the general public should be cautious before using products which have not been proven scientifically.

Preena Sidhu, Sathya Kannan
Senthilkumar Muthusamy, Kavitha Muthu
SEGi University, Malaysia

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2. Hyun Jun Ju, Hong Jin Bae, Young Tai Shin. Severe hyponatremia by excessive bamboo salt ingestion in healthy young woman. *Electrolyte Blood Press* 2013; 11: 53–55.
3. Choi C H, Ha M O, Youn H J *et al.* Effect of bamboo salt-NaF dentifrice on enamel remineralization. *Am J Dent* 2012; 25: 9–12.
4. Kim C Y, Chung S C, Sohn W S. Comparison of the antiplaque and anti-inflammatory effect of the dentifrices containing NaCl and bamboo salt. *J Korean Acad Dent Health* 1991; 15: 269–280.

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PHARMACOLOGY

A new bleeding issue

Sir, drugs producing a bleeding tendency include vitamin K antagonists (VKAs such as warfarin), newer oral anticoagulants (NOACs such as dabigatran), heparins and anti-platelet agents such as aspirin or clopidogrel. All may cause post-operative bleeding although, for minor dental surgery, drug dose modifications are rarely needed. Current oral anti-platelet therapies, used for the management and prevention of ischaemic events (acute coronary events, stroke, peripheral vascular disease) are based mainly on the inhibition of two pathways of platelet activation namely thromboxane A2 (blocked by aspirin) or adenosine diphosphate (ADP)-P2Y12 receptors (blocked by clopidogrel, prasugrel, and ticagrelor). Despite these therapies, patients who have experienced atherothrombosis (eg myocardial infarction) remain at risk for recurrent ischaemic episodes.¹ Therefore, a new class of platelet antagonists targeting thrombin-mediated platelet activation via protease-activated receptors (PAR) have been developed to address these issues.² The first drug in this group, vorapaxar, a PAR1 antagonist, has just been approved by the FDA³ for the reduction of thrombotic cardiovascular events in patients with a history of myocardial infarct and peripheral arterial disease but not in those with a history of stroke or transient ischaemic attack (due to the increased risk of intracranial haemorrhage observed in clinical trials in these two groups).^{4–6}

Vorapaxar is rapidly absorbed after oral administration with onset of activity at two hours. It has a long-half-life of